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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,844	02/25/2002	Kenji Okado	00684.003336	3763

5514 7590 07/13/2004

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EXAMINER

RODEE, CHRISTOPHER D

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/081,844	Applicant(s) OKADO ET AL.	
	Examiner Christopher RoDee	Art Unit 1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 16-22 and 25-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 6, 18, 21, 22 and 25-27 is/are rejected.
- 7) ☒ Claim(s) 2, 3, 5, 7-13, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/4/03 & 10/14/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 4 December 2003 has been entered.

Claim Objections

Claims 1, 16, and 17 are objected to because of the following informalities: the above noted claims have incorrectly placed the material of the Examiner's Amendment of 2 September 2003 for the words "based on". These words should appear before "Fe" (note two occurrences in claim 16) rather than before the numerical value. See pending claim 25, where the amendment was properly entered. Appropriate correction is required.

Claim Rejections - 35 USC § 112

Claims 16 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 is indefinite because there is not clear antecedent basis for "the metal element surface-exposed on the magnetite particles". It is unclear which element is being referred to as

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no element is previously recited as surface-exposed. Claim 17 is similarly indefinite because the same language is used.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 4, 6, 18, 21, 22, and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokunaga *et al.* in US Patent 5,885,740 in view of *Handbook of Imaging Materials* to Diamond, pp. 162-171, 178, 179, & 198-203 further in view of Gruber *et al.* in US Patent 4,578,338, and finally in view of JP 56-159654.

Tokunaga discloses a dispersed magnetic particle resin carrier having as magnetic particles magnetite with 0.1 to 5.0 wt. % of each of P and Al and optionally up to 5.0 wt. % Si, all based on Fe in magnetite particles (Abstract; patent claim 12). The reference states that these carriers are useful for electrostatic copying (Abstract), such as in a two-component system with toner (col. 1, l. 13-17). Note the specific relationship of P, Al, and Si in Table 1 (pertinent to claim 18).

Tokunaga does not disclose the characteristics of the toner for use with the carrier or the relative amounts of the components.

Diamond teaches that two-component developers conventionally contain a toner and carrier (pp. 162-163). Typically contain a binder-resin and colorant (p. 163) and additives such as a polyethylene or polypropylene wax (p. 170). Diamond specifically references the Gruber patent for a disclosure of useful waxes. Gruber discloses waxes of various molecular weights and states that about 2 to about 10 percent by weight of wax is effective (col. 5, l. 1-19).

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Diamond also teaches that conventional toner sizes are about 10 to 20 microns (p. 178).

Diamond also teaches that the carrier is typically 3 to 50 times as large as the toner and conventionally is coated with a resin (pp. 201-202).

The above references do not disclose the relative amounts of toner and carrier specified in the instant claims, but the JP document teaches that carrier formed by mixing resin and magnetic powder and a toner are usefully employed in a ratio of 100 : 2-20. This two-component developer is carried on the surface of a developing member in a developing vessel to develop a latent image. The toner and carrier are consumed during development so a replenishing amount of developer having less than or equal to 20 weight percent carrier is added so that the ratio of toner and carrier remains at a constant level. The replenishing developer is supplied periodically, that is, as each image is produced.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a conventional toner as discussed by Diamond and Gruber with the carrier of Tokunaga because, in order to use Tokunaga's carrier as a developer, a toner must be formulated with the carrier and the supporting references disclose conventional toners contain wax in amounts of about 2 to about 10 percent by weight and have a size of from about 10 to about 20 microns. It would also have been obvious to use this developer in a process where the developer is replenished with a mixture of additional carrier and toner where the carrier is present in amount of 20 weight percent or less (such as at the specifically disclosed 20 weight percent, which equates to a weight ratio of 1:4 for carrier to toner) because the JP reference teaches that both toner and carrier are consumed during the imaging process and that it is advantageous to add both carrier and toner to the remaining developer material to maintain the ratio of these components at a constant level. It would also have been obvious to

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optimize the size of the carrier within the teachings of Diamond in order to form an effective two-component developer.

Allowable Subject Matter

Claims 16 and 17 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claims 2, 3, 5, 7-13, 19, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cdr
7 July 2004


CHRISTOPHER RODEE
PRIMARY EXAMINER